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ABSTRACT

This assessment sample provides information on the Missouri Assessment Program (MAP) for grade 7 science. The sample consists of seven items taken from the test booklet and scoring guides for the seven items. The items assess heat, minerals, graphing, and plant growth. (MM)

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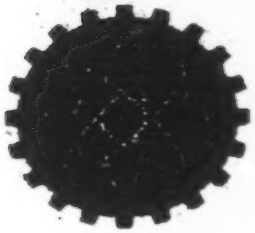
RELEASED ITEMS

Missouri Assessment Program (MAP)
Intermediate Science
Spring 2000
Grade 7



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Document Contents:

From Test Booklet- "Tulips"
Session 1-Items 1, 2, and 3
Session 2-Items 1, 2, 3, and 4

Scoring Guides

Missouri Department of Elementary and Secondary Education

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SE0577

INTERMEDIATE CONSTRUCTED RESPONSE

1. Why do dark-colored clothes help you stay warmer in winter and light-colored clothes help you stay cooler in summer?

Explain why wearing two layers of clothing that are each 1/8 inch (.31 cm) thick helps keep you warmer than does a single layer of the same materials that is ¼ inch (.63 cm) thick.

2. Electronic devices are now available for individuals to monitor their own blood pressure, blood glucose levels, and heart rates.

   (a) Explain how the use of such devices could be beneficial to a person.

   (b) Explain <u>one</u> possible risk to using such a device.

3. List three <u>physical characteristics</u> used to classify minerals.

   1. _____

   2. _____

   3. _____

INTERMEDIATE PERFORMANCE EVENT

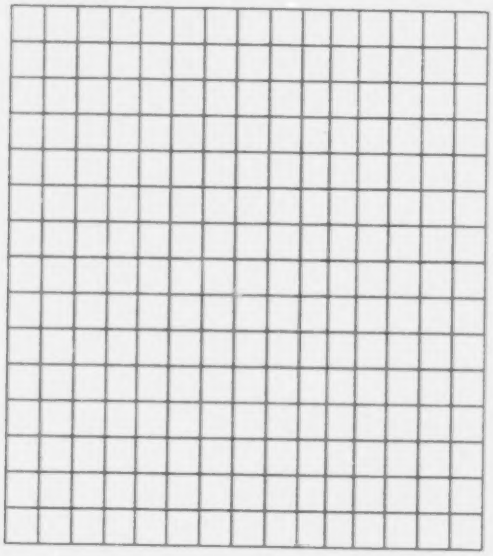
TULIPS

You are the owner of a company that supplies local florists with tulips. Last year the tulips you produced tended to be smaller than usual and you wonder if it had something to do with warmer soil temperature during the previous winter. The data below shows how the temperature of the ground in which tulip bulbs lie dormant in the winter affects the rate of growth of tulip plants.

HEIGHT OF TULIP PLANTS
ONE WEEK AFTER BREAKING THROUGH SOIL

	AREA A	AREA B	AREA C
Ground Temperature in Winter	7 C	2 C	0 C
Average Height of Plants	4 cm	8 cm	14 cm

1. Use the grid below to display the data from the chart as a line graph. Label and provide a number scale for each axis, and give your graph a title.



2. Based on the data on Page 2, describe the relationship between ground temperature in winter and the height of tulip plants after a week of visible growth.

3. Describe three variables other than winter ground temperature that might affect the rate at which tulip plants grow.

   1. _____

   2. _____

   3. _____

4. Did the data on Page 2 convince you that winter ground temperatures affect the rate of growth of tulips? Explain your answer.

GRADE 7

SCORING GUIDE

INTERMEDIATE SCORING GUIDE

CONSTRUCTED RESPONSE:

1. ***Two points***—one for each section

   A. Dark colored materials absorb radiation more effectively than light colored clothes
   B. A think layer of insulating air will be present between two layers.

2. ***Two point***—one for each section

   A. Use of such devices could reduce medical bills;
   Use of such devices would allow a person to keep a regular, day-to-day/hour-to-hour record of his/her blood pressure/glucose level/heart rate;
   Use of such devices would draw the individual into more direct involvement in appraising/maintaining his/her own health;
   Use of such devices should lead to earlier diagnosis of illnesses;
   Any reasonable response that indicates a student's understanding of how such self-monitoring devices could be beneficial to that person.

   B. Possible lack of training in the use of such devices might tend to produce inaccurate readings/monitoring;
   Poor procedure could result in infection/injury of person using the instrument;
   Individual could become obsessive/hypochondriacal, etc.;
   Self-diagnosis might result in error leading to incorrect treatment or medication usage;
   Any reasonable response that indicated a student's understanding of how the use of such monitoring devices could be a risk to that person.

3. ***Three points***—one for each of three answers

   streaks
   hardness
   crystalline structure
   cleavage/fracture
   chemical composition
   color
   luster/glitter
   density/specific gravity/heft
   magnetism
   refraction
   texture
   any response indicating a valid physical characteristic (not a test for a characteristic)

PERFORMANCE EVENT:

1. ***Four points***—one for each of the following:

   A. Graph has an appropriate title
   B. Axes labeled correctly
   C. Axes numbered correctly
   D. Data is plotted correctly

2. ***One point***

   The lower the ground temperature the greater the height or vice versa

3. ***Three points***—one for each of three answers

   Air temperature
   Soil type (mineral type)
   Amount of water
   Amount of sunlight
   Type of tulip/tulip bulb
   Parasites/pests
   Use of fertilizers
   Closeness of individual plants (density)
   How deep the bulb was planted
   Any obviously influential variable with respect to growth

4. ***One point***

   Yes AND tulips grew more when the ground temperature was colder

   OR

   No AND suggestion that not enough information is given about how the investigation was conducted to evaluate the quality of the data